PTO/SB/08A (10-01)

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INFOR		.	001.001105	Application Number	TBD		
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STATE	MENT B	Y	APPLICANT	First Named Inventor	Steven MOORE et al.		
	_			Art Unit	TBD		
(use as many sheets as necessary)				Examiner Name	TBD		
Sheet	1	of	4	Attorney Docket Number	30287-95		

U.S. PATENT DOCUMENTS							
Examiner Initials	Cite No. 1 Number - Kind Code 2 (If know	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear			
_	US- 3,678,204	07/18/1972	HARMUTH				
L_	US. 3,728,632	04/17/1973	ROSS				
	US- 4,447,747	05/08/1984	LAPOTIN				
	US- 4,641,317	02/03/1987	_FULLERTON				
	US- 4,782,324	11/01/1988	UNDERWOOD				
	US- 4,979,186	12/18/1990	FULLERTON				
	US- 5,115,409	05/19/1992	STEPP				
	US- 5,146,616	09/08/1992	TANG ET AL.				
	US- 5,157,559	10/20/1992	GLEASON ET AL.				
	US- 5,362,108	11/08/1994	FULLERTON				
	US- 5,515,014	05/07/1996	TROUTMAN				
	US- 5,574,755	11/12/1996	PERSICO				
	US- 5,587,687	12/24/1996	ADAMS				
	US- 5,635,863	06/03/1997	PRICE, JR.				
	US- 5,677,927	10/14/1997	FULLERTON ET AL.				
	us- 5,687,169	11/11/1997	FULLERTON				
	US- 5,687,200	11/11/1997	BERGER				
	US- 5,708,377	01/13/1998	BRADLEY				
Lo	US- 5,714,954	02/03/1998	CHUNG ET AL.				
1/2	US- 5.768.700	06/16/1998	KARDONTCHIK				

FOREIGN PATENT DOCUMENTS									
Exeminer Initials		Foreign Patent Document Country Code 3 - Number 4. Kind Code 5 (If known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Т,			
K	V	WO 01/93434 A2	12/06/2001	Martin ROFHEART et al.					
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C mpl te if Known Substitute for form 1449A/PTO TBD **Application Number** INFORMATION DISCLOSURE 07/31/03 Filing Date STATEMENT BY APPLICANT **First Named Inventor** Steven MOORE et al. Art Unit **TBD** (use as many sheets as necessary) Examiner Name TBD Attorney Docket Number Sheet of 4 30287-95

			U.S. PATI	ENT DOCUMENTS	
Examiner Initials		Occument Number Number - Kind Code ² (if known	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
(_		US- 5,847,623	12/08/1998	HADJICHRISTOS	
		us- 5,872,446	02/16/1999	CRANFORD, JR. ET AL.	
		us- 5,900,747	05/04/1999	BRAUNS	
	<u> </u>	US- 5,986,501	11/16/1999	RAFATLET AL.	
		us- 6,026,125	02/15/2000	LARRICK, JR. ET AL.	
		US- 6,031,862	02/29/2000	FULLERTON ET AL.	`
		us- 6,043,943	03/28/2000	REZZI ET AL.	
		us- 6,054,889	04/25/2000	KOBAYASHI	
		US- 6,061,551	05/09/2000	SORRELLS ET AL.	
		US- 6,078,277	06/20/2000	CHENG ET AL.	
		US- 6,087,871	07/11/2000	KARDO-SYSSOEV ET AL.	
		US- 6,118,339	09/12/2000	GENTZLER ET AL.	
		US- 6,178,217 B1	01/23/2001	DEFRIES ET AL.	
		US- 6,281,822 B1	08/28/2001	PARK	
		US- 6,351,652 B1	02/26/2002	FINN ET AL.	
		us- 6,356,224 B1	03/12/2002	WOHLFARTH	
		US- 6,433,720 B1	08/13/2002	LIBOVE ET AL.	
		US- 6,539,213 B1	03/25/2003	RICHARDS ET AL.	
10		us- 6,580,902 B1	06/17/2003	SORRELLS ET AL.	
IP		US- 2001/0019313A1	09/02/2001	TAKAHASHLET AI	en der der de trade en de trade en de

	FOREIGN PATENT DOCUMENTS									
Examiner Initials	Cite No. ¹	Foreign Patent Document Country Code 3 - Number 4 - Kind Code 5 (# known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶				

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¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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Compl te if Known Substitute for form 1449A/PTO TBD **Application Number** 07/31/03 Filing Date **First Named Inventor** Steven MOORE et al. **Art Unit**

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) TBD **Examiner Name** Sheet of 4 Attorney Docket Number 30287-95

U.S. PATENT DOCUMENTS								
Examiner Initials		Document Number Number - Kind Code ² (if known	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear			
		US- 2003/0048212A1	03/13/2003	Libove et al.				
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Examiner Initials	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	7
K		FERNANDO RAMIREZ-MIRELES, "On Performance of Ultra Wideband Signals in Gaussian Noise and Dense Multipath," Paper 99C265, Accepted for Publication in the IEEE Transactions on Vehicular Technology, Pages 1-9.	
ĺ		FERNANDO RAMIREZ-MIRELES et al., "N-Orthogonal Time-Shift-Modulated Codes for Impulse Radio, " Communication Sciences Institute, Department of Electrical Engineering-Systems, University of Southern California, Los Angeles, CA 90089-2565 USA, Pages 1-4.	
		HENNING F. HARMUTH, "Fundamental Limits for Radio Signals With Large Bandwidth," IEEE Transactions on Electromagnetic Compatibility, Vol. EMC-23, No. 1, February 1981, Pages 37-43.	
		HENNING F. HARMUTH, "Frequency-Sharing and Spread-Spectrum Transmission with Large Relative Bandwidth," IEEE Transactions on Electromagnetic Compatibility, Vol. EMC-20, No. 1, February 1978, Pages 232-239.	
		HENNING F. HARMUTH, "Applications of Walsh functions in communications," IEEE Spectrum, November 1969, Pages 82-91.	
		AETHER WIRE & LOCATION, INC., ROBERT FLEMING et al., "Integrated, Low-Power, Ultra-Wideband Tranceivers for Distributed Position Location and Communication," Technical Abstracts of Proposal to Defense Advanced Research Projects Agency (DARPA), Part I - Technical Proposal, 1998, Pages 1-52.	
12		AETHER WIRE & LOCATION, INC., ROBERT FLEMING et al., "Low-Power, Miniature, Distributed Position Location and Communication Devices Using Ultra-Wideband, Nonsinusoidal Communication Technology," Semi-Annual Technical Report Prepared for: ARPA/FBI, July 1995, Pages 1-40.	

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